

**SEARCH REQUEST FORM**

Scientific and Technical Information Center

Requester's Full Name: GREGG CANTELMO Examiner #: 75777 Date: 5/2/03  
 Art Unit: 1745 Phone Number 30 5 0635 Serial Number: 09/895,163  
 Mail Box and Bldg/Room Location: C73 8E09 Results Format Preferred (circle): PAPER DISK E-MAIL

**BEST AVAILABLE COPY**

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: SEE ATTACHED

Inventors (please provide full names): SEE ATTACHED

Earliest Priority Filing Date:

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

SEE CLAIMS AND  
STRUCTURE OF COMPOSITION

\$232.27

\*\*\*\*\*  
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Searcher: KR RM  
 Searcher Phone #: 305-3572  
 Searcher Location: E/C 1700  
 Date Searcher Picked Up: 6/5/03  
 Date Completed: 6/6/03  
 Searcher Prep & Review Time: 30 m.  
 Clerical Prep Time: \_\_\_\_\_  
 Online Time: 120 m.

Type of Search	Vendors and cost where applicable
NA Sequence (#)	STN
AA Sequence (#)	Dialog
Structure (#)	Questel/Orbit
Bibliographic	Dr.Link
Litigation	Lexis/Nexis
Fulltext	Sequence Systems
Patent Family	WWW/Internet
Other	Other (specify)

Page 1Cantelmo163

=> file reg  
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Property values tagged with IC are from the ZIC/VINITI data file  
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STRUCTURE FILE UPDATES: 4 JUN 2003 HIGHEST RN 525536-93-0  
DICTIONARY FILE UPDATES: 4 JUN 2003 HIGHEST RN 525536-93-0

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2003

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP  
PROPERTIES for more information. See STNote 27, Searching Properties  
in the CAS Registry File, for complete details:  
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=> file caplus  
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FILE COVERS 1907 - 6 Jun 2003 VOL 138 ISS 24  
FILE LAST UPDATED: 5 Jun 2003 (20030605/ED)

This file contains CAS Registry Numbers for easy and accurate  
substance identification.

=> d que  
L1 STR

KOROMA EIC1700

F~ C C~ Cb  
1 2 3 4

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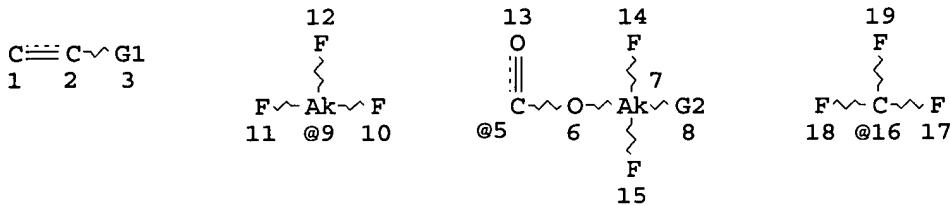
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 4

STEREO ATTRIBUTES: NONE

L2 STR



VAR G1=9/5

VAR G2=OH/16

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 18

STEREO ATTRIBUTES: NONE

L7 SCR 2043

L9 9 SEA FILE=REGISTRY SSS FUL L7 AND L1 AND L2

L10 7 SEA FILE=CAPLUS ABB=ON PLU=ON L9

=> d ibib abs hitstr ind total

L10 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2002:31060 CAPLUS

DOCUMENT NUMBER: 136:86247

TITLE: Partially sulfonated fluorinated copolymer based on trifluorostyrene and substituted vinyl compound and use for ionic conductive polymer membrane for a fuel cell

INVENTOR(S): Kim, Hae-Kyoung

PATENT ASSIGNEE(S): Samsung Electronics Co., Ltd., S. Korea

SOURCE: Eur. Pat. Appl., 15 pp.

CODEN: EPXXDW

DOCUMENT TYPE:

Patent

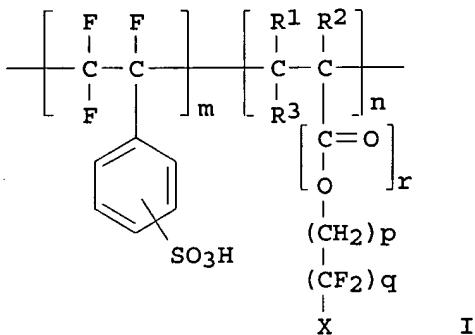
LANGUAGE:

English

FAMILY ACC. NUM. COUNT: 1

## PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1170310	A2	20020109	EP 2001-305699	20010629
EP 1170310	A3	20020130		
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO		
US 2002015874	A1	20020207	US 2001-895163	20010702
PRIORITY APPLN. INFO.:			KR 2000-37394	A 20000630
GI				



AB The partially crosslinked fluorinated copolymer I is prep'd., where R1-3 = F, H or Me; X = OH or F3C; m >0; n >0; and p, q and r .gt;req.0. When a partially crosslinked copolymer is used, the degree of swelling of the polymer membrane and fuel crossover can be reduced. An example polymer is sulfonated heptadecafluorodecyl methacrylate-.alpha.,.beta.,.beta.-trifluorostyrene copolymer.

IT 386284-80-6DP, Heptadecafluorodecyl methacrylate-.alpha.,.beta.,.beta.-trifluorostyrene copolymer, sulfonated 386284-81-7DP, sulfonated 386284-83-9DP, Heptadecafluorodecyl acrylate-.alpha.,.beta.,.beta.-trifluorostyrene copolymer, sulfonated

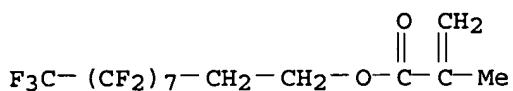
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)  
(partially sulfonated fluorinated copolymer based on trifluorostyrene and substituted vinyl compd. for ionic conductive polymer membrane for a fuel cell)

RN 386284-80-6 CAPLUS

CN 2-Propenoic acid, 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-heptadecafluoroundecyl ester, polymer with (trifluoroethenyl)benzene (9CI) (CA INDEX NAME)

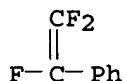
CM 1

CRN 1996-88-9  
CMF C14 H9 F17 O2



CM 2

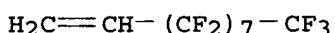
CRN 447-14-3  
CMF C8 H5 F3



RN 386284-81-7 CAPLUS  
CN Benzene, (trifluoroethenyl)-, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,  
10,10-heptadecafluoro-1-decene (9CI) (CA INDEX NAME)

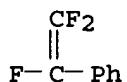
CM 1

CRN 21652-58-4  
CMF C10 H3 F17



CM 2

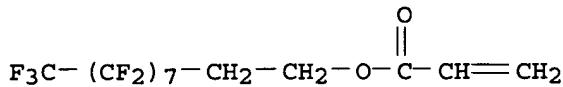
CRN 447-14-3  
CMF C8 H5 F3



RN 386284-83-9 CAPLUS  
CN 2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-  
heptadecafluorodecyl ester, polymer with (trifluoroethenyl)benzene (9CI)  
(CA INDEX NAME)

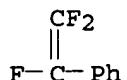
CM 1

CRN 27905-45-9  
CMF C13 H7 F17 O2



CM 2

CRN 447-14-3  
CMF C8 H5 F3



IC C08F212-14; C08F008-36; C08J003-24; C08J005-22; H01M008-10  
CC 35-4 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 38, 52  
ST heptadecafluorodecyl methacrylate trifluorostyrene copolymer sulfonated membrane  
IT Fuel cell separators  
Fuel cells  
(partially sulfonated fluorinated copolymer based on trifluorostyrene and substituted vinyl compd. for ionic conductive polymer membrane for a fuel cell)  
IT Membrane electrodes  
(proton exchange; partially sulfonated fluorinated copolymer based on trifluorostyrene and substituted vinyl compd. for ionic conductive polymer membrane for a fuel cell)  
IT Fluoropolymers, preparation  
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)  
(sulfonated; partially sulfonated fluorinated copolymer based on trifluorostyrene and substituted vinyl compd. for ionic conductive polymer membrane for a fuel cell)  
IT 386284-80-6DP, Heptadecafluorodecyl methacrylate-.alpha.,.beta.,.beta.-trifluorostyrene copolymer, sulfonated  
386284-81-7DP, sulfonated 386284-82-8DP, sulfonated  
386284-83-9DP, Heptadecafluorodecyl acrylate-.alpha.,.beta.,.beta.-trifluorostyrene copolymer, sulfonated  
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)  
(partially sulfonated fluorinated copolymer based on trifluorostyrene

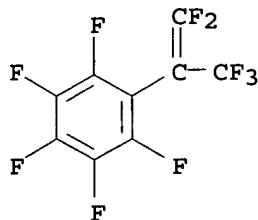
and substituted vinyl compd. for ionic conductive polymer membrane for  
a fuel cell)

L10 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2003 ACS  
ACCESSION NUMBER: 1994:245894 CAPLUS  
DOCUMENT NUMBER: 120:245894  
TITLE: Polymerization of polyfluorinated styrenes in  
glow-discharge plasma  
AUTHOR(S): Gil'man, A. B.; Shifrina, R. R.; Dvornikova, K. A.;  
Platonov, V. E.  
CORPORATE SOURCE: Nauchno-Issled. Fiz.-Khim. Inst. im. L. Ya. Karpova,  
Moscow, 103064, Russia  
SOURCE: Khimiya Vysokikh Energii (1994), 28(1), 84-7  
CODEN: KHVKA0; ISSN: 0023-1193  
DOCUMENT TYPE: Journal  
LANGUAGE: Russian  
AB Perfluoro-.alpha.-methylstyrene, perfluoro-.beta.-methylstyrene,  
perfluoroallylbenzene, .alpha.-chloroperfluorostyrene,  
.alpha.,p-dichlorohexafluorostyrene, and .alpha.,.beta.-  
dichloroperfluorostyrene were polymd. in glow-discharge plasma. Rate of  
film formation and IR spectra of monomers and polymers are given, and  
various possible mechanisms of polymn. are discussed.  
IT 154605-78-4P, Perfluoro-.alpha.-methylstyrene homopolymer  
154605-80-8P, Perfluoro-.beta.-methylstyrene homopolymer  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prep. of, in glow-discharge plasma)  
RN 154605-78-4 CAPLUS  
CN Benzene, [2,2-difluoro-1-(trifluoromethyl)ethenyl]pentafluoro-,  
homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1996-63-0

CMF C9 F10

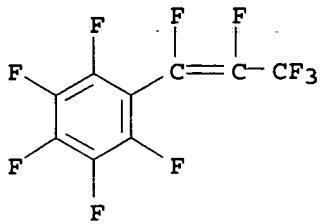


RN 154605-80-8 CAPLUS  
CN Benzene, pentafluoro(1,2,3,3,3-pentafluoro-1-propenyl)-, homopolymer (9CI)  
(CA INDEX NAME)

CM 1

CRN 111302-04-6

CMF C9 F10



CC 35-4 (Chemistry of Synthetic High Polymers)  
ST perfluorinated styrene deriv plasma polymn  
IT Polymerization  
    (plasma, of polyfluorinated styrenes, rates and mechanism of)  
IT 81313-10-2P, .alpha.-Chloroperfluorostyrene homopolymer  
154605-78-4P, Perfluoro-.alpha.-methylstyrene homopolymer  
154605-79-5P, Perfluoroallylbenzene homopolymer 154605-80-8P,  
Perfluoro-.beta.-methylstyrene homopolymer 154605-81-9P,  
.alpha.,p-Dichlorohexafluorostyrene homopolymer 154605-82-0P,  
.alpha.,.beta.-Dichloroperfluorostyrene homopolymer  
RL: SPN (Synthetic preparation); PREP (Preparation)  
    (prepn. of, in glow-discharge plasma)

L10 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2003 ACS  
ACCESSION NUMBER: 1989:478737 CAPLUS  
DOCUMENT NUMBER: 111:78737  
TITLE: Radiation grafting of .alpha.,.beta.,.beta.-trifluorostyrene onto various polymer films by preirradiation method  
AUTHOR(S): Momose, Takashi; Tomie, Kazuo; Ishigaki, Isao;  
Okamoto, Jiro  
CORPORATE SOURCE: Chlorine Eng. Corp., Ltd., Tokyo, Japan  
SOURCE: Journal of Applied Polymer Science (1989), 37(8),  
2165-8  
CODEN: JAPNAB; ISSN: 0021-8995  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
AB The preliminary study on the radiation grafting of .alpha.,.beta.,.beta.-trifluorostyrene onto various polymer films, mainly fluorine-contg. polymers, by preirradn. by electron beams (beam energy 500 KV, current 3.95 mA, dose 1 .times. 105 Gy) was reported. Films of ethylene-tetrafluoroethylene (I) copolymer, LDPE, perfluorovinyl ether-I copolymer, I-tetrafluoropropylene copolymer, and PTFE were studied. The smaller the difference in solv. parameter between polymer and monomer, the greater was the polymer film swelling. The higher the degree of polymer film swelling, the higher the grafting rate and final percent grafting were.  
IT 122164-60-7P, Tetrafluoroethylene-tetrafluoropropylene-.alpha.,.beta.,.beta.-trifluorostyrene graft copolymer  
RL: SPN (Synthetic preparation); PREP (Preparation)

(prepн. of, by preirradn. of films with electron beams)

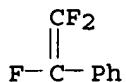
RN 122164-60-7 CAPLUS

CN Benzene, (trifluoroethenyl)-, polymer with 1,1,2,3,3,3-hexafluoro-1-propene and tetrafluoroethene, graft (9CI) (CA INDEX NAME)

CM 1

CRN 447-14-3

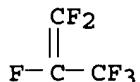
CMF C8 H5 F3



CM 2

CRN 116-15-4

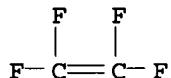
CMF C3 F6



CM 3

CRN 116-14-3

CMF C2 F4



CC 35-8 (Chemistry of Synthetic High Polymers)

ST trifluorostyrene radiation graft polymn fluoropolymer

IT Fluoropolymers

RL: USES (Uses)

(graft polymn. of trifluorostyrene on films of, by preirradn. with electron beams)

IT Electron beam, chemical and physical effects

(polymn. by, of trifluorostyrene on LDPE and fluoropolymer films)

IT Polymerization

(graft, radiochem., of trifluorostyrene, on LDPE and fluoropolymer films, by preirradn. with electron beams)

IT 112118-74-8P, Ethylene-tetrafluoroethylene-.alpha.,.beta.,.beta..-

trifluorostyrene graft copolymer 122164-58-3P, Ethylene-.alpha.,.beta.,.beta.-trifluorostyrene graft copolymer 122164-59-4P, Perfluorovinyl ether-tetrafluoroethylene-.alpha.,.beta.,.beta.-trifluorostyrene graft copolymer 122164-60-7P, Tetrafluoroethylene-tetrafluoropropylene-.alpha.,.beta.,.beta.-trifluorostyrene graft copolymer 122164-61-8P, Tetrafluoroethylene-.alpha.,.beta.,.beta.-trifluorostyrene graft copolymer  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of, by preirradn. of films with electron beams)

L10 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2003 ACS  
ACCESSION NUMBER: 1989:155727 CAPLUS  
DOCUMENT NUMBER: 110:155727  
TITLE: Manufacture of fluorostyrene-methacrylate copolymer optical fibers  
INVENTOR(S): Tan, Masayuki; Motai, Tsuneaki; Yoshida, Shotaro; Hasegawa, Shoichi  
PATENT ASSIGNEE(S): Fujikura Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63214704	A2	19880907	JP 1987-47441	19870304
PRIORITY APPLN. INFO.:			JP 1987-47441	19870304

AB Optical fibers are prep'd. from copolymer of octafluorostyrene (I) and octafluoromethyl methacrylate (II) as cores. Thus, a mixt. of I 50, II 50, tert-butyl hydroperoxide 0.05, and tert-Bu mercaptan 0.1 part was heated at 150.degree. to give polymers. The polymer was coextruded with a vinylidene fluoride copolymer (as sheath) to give 1-mm optical fibers having transmittance loss .apprx.110 dB/km at 640 nm and 290 dB/km at 830 nm.

IT 119875-62-6P, Octafluoromethyl methacrylate-octafluorostyrene copolymer

RL: PREP (Preparation)  
(manuf. of for cores for optical fibers)

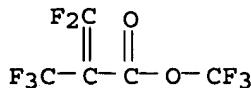
RN 119875-62-6 CAPLUS

CN 2-Propenoic acid, 3,3-difluoro-2-(trifluoromethyl)-, trifluoromethyl ester, polymer with pentafluoro(trifluoroethenyl)benzene (9CI) (CA INDEX NAME)

CM 1

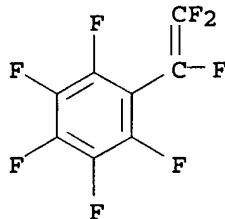
CRN 119875-61-5

CMF C5 F8 O2



CM 2

CRN 652-23-3  
CMF C8 F8



IC ICM G02B006-00  
ICS C08F212-08; D01F008-10  
CC 38-3 (Plastics Fabrication and Uses)  
ST fluorostyrene copolymer optical fiber; fluoromethyl methacrylate copolymer optical fiber; core sheath fluoropolymer optical fiber  
IT Optical fibers  
(cores for, octafluorostyrene-trifluoromethyl pentafluoromethacrylate copolymers as)  
IT Synthetic fibers, polymeric  
RL: USES (Uses)  
(fluoropolymers, optical, core-sheath)  
IT 119875-62-6P, Octafluoromethyl methacrylate-octafluorostyrene copolymer  
RL: PREP (Preparation)  
(manuf. of for cores for optical fibers)  
IT 75-38-7D, copolymers  
RL: USES (Uses)  
(optical fibers contg. octafluorostyrene-trifluoromethyl pentafluoromethacrylate copolymer cores and sheaths of)

L10 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2003 ACS  
ACCESSION NUMBER: 1982:493555 CAPLUS  
DOCUMENT NUMBER: 97:93555  
TITLE: Permselectivity of ion exchange membranes from sorption data and its relation to nonuniformity of membranes  
AUTHOR(S): Wodzki, Romuald; Narebska, Anna; Ceynowa, Jozef  
CORPORATE SOURCE: Inst. Chem., Nicholas Copernicus Univ., Torun, 87-100, Pol.  
SOURCE: Angewandte Makromolekulare Chemie (1982), 106, 23-35

CODEN: ANMCBO; ISSN: 0003-3146

DOCUMENT TYPE: Journal  
LANGUAGE: English

AB An equation was derived which relates the permselectivity of cation exchange membranes to their nonuniformity and vol. fraction of nonselective domains. Transport nos. of the H<sup>+</sup> ion in the membranes equilibrated with H<sub>2</sub>SO<sub>4</sub> solns. were calcd. using sorption data according to the equation of Arnold and Swift (1967). The validity of the equation was verified by independent detn. of transport nos. using the EMF method.

IT 58813-64-2D, sulfonated  
RL: USES (Uses)

(graft, membranes, permselectivity of, calcn. of)

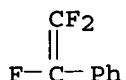
RN 58813-64-2 CAPLUS

CN Benzene, (trifluoroethenyl)-, polymer with 1,1-difluoroethylene and 1,1,2,3,3,3-hexafluoro-1-propene (9CI) (CA INDEX NAME)

CM 1

CRN 447-14-3

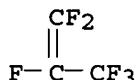
CMF C8 H5 F3



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CRN 116-15-4

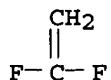
CMF C3 F6



CM 3

CRN 75-38-7

CMF C2 H2 F2



CC 38-3 (Plastics Fabrication and Uses)

ST cation exchanger permselectivity nonuniformity; membrane cation exchanger  
permselectivity  
IT Cation exchangers  
(membranes, permselectivity of, calcn. of)  
IT 9069-90-3D, sulfonated 58813-64-2D, sulfonated 58857-39-9  
RL: USES (Uses)  
(graft, membranes, permselectivity of, calcn. of)

L10 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1979:31165 CAPLUS  
DOCUMENT NUMBER: 90:31165  
TITLE: Trifluorostyrene sulfonic acid membranes  
INVENTOR(S): D'Agostino, Vincent F.; Lee, Joseph Y.; Cook, Edward H., Jr.  
PATENT ASSIGNEE(S): Hooker Chemicals and Plastics Corp., USA; RAI Research Corp.  
SOURCE: U.S., 9 pp.  
CODEN: USXXAM  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 2  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4012303	A	19770315	US 1974-535636	19741223
GB 1498990	A	19780125	GB 1975-51282	19751215
FR 2295982	A1	19760723	FR 1975-38860	19751218
BR 7508491	A	19760824	BR 1975-8491	19751219
BE 836970	A1	19760622	BE 1975-163033	19751222
SE 7514517	A	19760624	SE 1975-14517	19751222
FI 7503626	A	19760624	FI 1975-3626	19751222
NL 7514956	A	19760625	NL 1975-14956	19751222
DE 2558393	A1	19760624	DE 1975-2558393	19751223
NO 7504348	A	19760624	NO 1975-4348	19751223
JP 51089881	A2	19760806	JP 1975-153857	19751223
PL 97696	P	19780330	PL 1975-185926	19751223
US 4107005	A	19780815	US 1976-741163	19761111
US 4113922	A	19780912	US 1977-850194	19771110

PRIORITY APPLN. INFO.: US 1974-535636 19741223  
US 1976-741163 19761111

AB A membrane or diaphragm for various electrochem. cells such as chlor-alkali or fuel cells is obtained by irradn. Thus, .alpha.,.beta.,.beta.-trifluorostyrene in an inert org. solvent is grafted onto an inert film such as tetrafluoroethylene-hexafluoropropylene copolymer by irradn. with 60Co .gamma.-radiation, and the sulfonated. This sulfonated polymer was used in a brine electrolysis cell contg. 200-235 g NaCl/L. The NaOH recovered from the cathode compartment contains less than .apprx.1% NaCl while Cl is produced at a current efficiency >95%.

IT 58828-54-9D, sulfonated  
RL: PRP (Properties)

(graft, for electrochem. cell membrane)

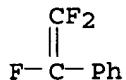
RN 58828-54-9 CAPLUS

CN Benzene, (trifluoroethyl)-, polymer with 1,1,2,3,3,3-hexafluoro-1-propene and tetrafluoroethene (9CI) (CA INDEX NAME)

CM 1

CRN 447-14-3

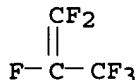
CMF C8 H5 F3



CM 2

CRN 116-15-4

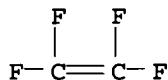
CMF C3 F6



CM 3

CRN 116-14-3

CMF C2 F4



IC C25B013-08

NCL 204159170

CC 72-10 (Electrochemistry)

Section cross-reference(s) : 49

ST sulfonated fluorostyrene polymer membrane; electrochem cell sulfonated membrane; brine electrolysis sulfonated membrane; fluoroethylene fluoropropylene fluorostyrene polymer membrane; fuel cell sulfonated membrane; sodium hydroxide electroprodn sulfonated membrane; chlorine electroprodn sulfonated membrane

IT Brines

(electrolysis of, sulfonated trifluorostyrene-contg. polymer membrane for)

IT Fuel cells  
(sulfonate trifluorostyrene-contg. polymer membranes for)  
IT Electrolytic cells  
(diaphragm, sulfonated trifluorostyrene-contg. polymer for)  
IT 58828-54-9D, sulfonated 67184-03-6 68778-29-0 68812-67-9  
RL: PRP (Properties)  
(graft, for electrochem. cell membrane)  
IT 7782-50-5P, preparation  
RL: PREP (Preparation)  
(manuf. of, in brine electrolysis in cell with sulfonated trifluorostyrene-contg. polymer membranes)  
IT 1310-73-2P, preparation  
RL: PREP (Preparation)  
(manuf. of, in electrolytic cell with sulfonated trifluorostyrene-contg. polymer membrane)

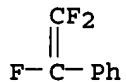
L10 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2003 ACS  
ACCESSION NUMBER: 1977:585328 CAPLUS  
DOCUMENT NUMBER: 87:185328  
TITLE: Chemical stability of trifluorostyrene-based membranes  
AUTHOR(S): Ryzhov, M. G.; Vauchskii, Yu. P.; Larin, A. M.;  
Vel'ts, A. A.  
CORPORATE SOURCE: USSR  
SOURCE: Plasticheskie Massy (1976), (2), 68-71  
CODEN: PLMSAI; ISSN: 0554-2901  
DOCUMENT TYPE: Journal  
LANGUAGE: Russian

AB The resistance to oxidative degrdn. of ion exchange membranes prep'd. by sulfonation of hexafluoropropylene-CH<sub>2</sub>:CF<sub>2</sub> or hexafluoropropylene-C<sub>2</sub>F<sub>4</sub> copolymers with styrene (I) or .alpha.,.beta.,.beta.-trifluorostyrene (II) depended primarily on the nature of oxidizing agent (HNO<sub>3</sub>, CrO<sub>3</sub>-H<sub>2</sub>SO<sub>4</sub>, KMnO<sub>4</sub>, etc.) and to a lesser extent on the compn. of the copolymer. The membranes prep'd. from copolymers contg. II units had somewhat higher chem. resistance than those contg. I units. Higher stability of the membranes prep'd. from sulfonated II-grafted hexafluoropropylene-C<sub>2</sub>F<sub>4</sub> copolymer, as compared to that of sulfonated II homopolymer, was ascribed to the presence of crosslinks in the graft copolymer.

IT 58813-64-2D, sulfonated 58828-54-9D, sulfonated  
RL: USES (Uses)  
(graft, ion exchange membranes from, chem. and oxidative stability of)  
RN 58813-64-2 CAPLUS  
CN Benzene, (trifluoroethenyl)-, polymer with 1,1-difluoroethene and  
1,1,2,3,3,3-hexafluoro-1-propene (9CI) (CA INDEX NAME)

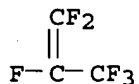
CM 1

CRN 447-14-3  
CMF C8 H5 F3



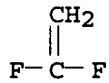
CM 2

CRN 116-15-4  
CMF C3 F6



CM 3

CRN 75-38-7  
CMF C2 H2 F2

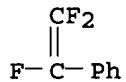


RN 58828-54-9 CAPLUS

CN Benzene, (trifluoroethenyl)-, polymer with 1,1,2,3,3,3-hexafluoro-1-propene and tetrafluoroethene (9CI) (CA INDEX NAME)

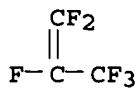
CM 1

CRN 447-14-3  
CMF C8 H5 F3



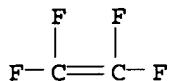
CM 2

CRN 116-15-4  
CMF C3 F6



CM 3

CRN 116-14-3  
CMF C2 F4



CC 36-4 (Plastics Manufacture and Processing)  
ST ion exchange membrane stability; fluoropolymer membrane stability; oxidn  
stability ion exchanger; chem stability ion exchanger; fluorostyrene ion  
exchange membrane; trifluorostyrene copolymer ion exchanger  
IT Cation exchangers  
(membranes, fluoropolymers, chem. and oxidative stability of)  
IT 30394-23-1D, sulfonated 58813-64-2D, sulfonated  
58828-54-9D, sulfonated  
RL: USES (Uses)  
(graft, ion exchange membranes from, chem. and oxidative stability of)  
IT 26838-51-7D, sulfonated  
RL: USES (Uses)  
(ion exchange membranes from, chem. and oxidative stability of)